



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D350-604-041
Job Sheet 155144



Part No: D350-604-041

Job Qty: 1 ea

Part Name: Rear Locker Extender



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/30/17

Job Tracking No:

Due Date: 11/1/17

Created By: Mario Poulin

Type: Stock

Description:

Customer: Rilpa Enterprises Ltd (CRILP01)

480 Aviation Way NE Calgary, AB, T2E 7G3 Canada ph:(403) 275-3035 fx:(403) 730-0170.

Note: DWG D350-604-041 REV C U/R, D2273 REV M IPP Rev:Q 03.12.01 Reformat KJ/RF IPP REV:R 12.02.07 AS PER ECN12-521 DD verf:JLM IPP REV:S 12.04.04 AS PER DWG REV.B DD VERF:EC IPP REV:T 13.09.12 as per CHG006/ECN13-616 DDVERF:JLM IPP REV:U 14.05.28 as per chg008/ecn14-563 DD verf:JLM IPP REV:V 15.03.13 remove cam lock and washerDD verf:JLM IPP REV:W 15.03.25 ECN15-545 DD VERF:JLM IPP REV:X 17.01.12 AS PER CHG010 DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Due Date	Standard		Workcenter/Supplier	
				Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time
90	Start up Operation	1 Ea	10/31/17	0.00	0.00	Start up container	
100	DC	1 pcs	10/31/17	0.00	0.00	DC	
110	Purchasing	1 pcs	10/31/17	0.00	0.00	Purchasing	
120	Packaging	1 pcs	10/31/17	0.00	0.00	Packaging2	
130	QC	1 pcs	10/31/17	0.00	0.00	QC6	
140	Small Fab	1 pcs	11/1/17	0.00	1.61	Small Fab	
150	QC	1 pcs	11/1/17	0.00	0.00	QC5	
155	Packaging	1 pcs	11/1/17	0.00	0.00	Packaging1	
158	QC	1 pcs	11/1/17	0.00	0.00	QC4	
160	Packaging	1 pcs	11/1/17	0.00	0.00	Packaging3	
170	QC21-FG	1 Ea	11/1/17	0.00	0.00	QC21	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated	Std Qty
90-Start up Operation	D350-604-041P	1	0	0	0
140-Small Fab	D2268 5019934	1	7	0	0
	D2728-1	1	0	0	0
155-Packaging	D2269 5019936	1	1	0	0
	D5062-041 5019939	1	4	0	0

Part Specifications

Specifications could not be found.

DART
AEROSPACE

S016342



Rear Locker Extender

PART NO:
Revision:
Operation:
Change No:

QC

D350-604-041

Mfg Date: 12/01/17
Job No: 155144

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K64 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Work Order ID 155144

Monday, January 09, 2017 11:30:17 AM

155144

Page 1

Item ID: D350-604-041
Revision ID: URF 16-567
Item Name: Rear Locker Extender

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 9/29/2017 Start Qty: 1.00 ***1***
Required Date: 11/1/2017 Req'd Qty: 1.00 ***1***

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: DAS Date: JAN 17 2017 Tooling: _____ Date: _____
QC: 21 Date: _____ SPC (Y/N): _____ Date: _____
9-89

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2273	<u>LUR M</u> <u>17/01/12</u>
D350-604-041	<u>CUR</u> <u>12/1/13</u>

100	Document Control	0.00
100	DOCUMENT CONTROL	

DC Memo 0.00
Doc.Control -USB or Paperwork Photocopy bluefile and create labels per PPP D350-604-041
CHG009 CHG009 see attachment

110	PURCHASING	0.00
110		

Purchasing Memo 0.00
Purchasing Issue P/O: 34975
Description: D350-604-041 Rear locker extender.
Manufacture as per dwg D2273
Supplier: FDC Composites Inc.
Certification of Conformity and process sheet required.

***EXTREME CARE MUST BE TAKEN TO PROTECT THE SURFACES OF
THE REAR LOCKER. THE SURFACES MUST BE SMOOTH AND FREE
FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR
DENTS.***

MUST BE WELL PACKAGE, IF NOT IT WILL BE REFUSE

JAN 17 2017

DAS
13
9-89

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____		DISPOSITION		AGAINST DEPARTMENT/PROCESS							
Part No. _____		Rework ☐		Skid-tube ☐		Cross tube ☐		Water Jet ☐		Engineering ☐	
NCR No. _____		Scrap ☐		Machining ☐		Small Fab ☐		Prod. Eng. Coord. ☐		Quality ☐	
		Use-as-is ☐		Thermoforming ☐		Finishing ☐		Rec/Store/Packaging ☐		Other ☐	
		Suspected Unapproved ☐		Large Fab ☐		Composite ☐		Supplier ☐			
Date : _____		Step #: _____		QTY Effective : _____				MRB (QSI042) Approval			
Description Work Order Deviation				Disposition							
								Completed By			
								Lead hand / Supervisor Approval Verification			
								QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY									
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐		Positioned Wrong ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐		Folio/Program ☐		Outside Dimensions ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐		Grain ☐		Over/Under tolerance ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐		Weld ☐		Part Incorrect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐		Part Lost/Missing ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐		Out of Sequence ☐		Part Moved ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐		Off-set ☐		Drawing ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐		Finish ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐		Misread ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐		Turning Sequence ☐	
Past Expiry Date ☐		Manufacturing Process ☐									
Misidentified ☐		Past Due ☐		OTHER : _____							

Work Order ID 155144

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Item ID: D350-604-041

Accept

N900040100Setup Start ***NS1***

Revision ID: URF 16-567

Stop ***NS2***

Item Name: Rear Locker Extender

Start Date: 9/29/2017 Start Qty: 1.00

1

Cust Item ID:

Required Date: 11/1/2017 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	Receive & Inspect for Damage & Mat'l Certs	0.00							
120	Packaging								
Packaging	Memo	0.00							
Packaging	Ensure a copy of Certification of Conformity and process sheet from Carbon-by-Design is attached.								
	DO NOT STACK REAR LOCKERS OR ANYTHING ON THEM								
130	QC6- Inspect dimensions to drawing	0.00							
130									
QC	Memo	0.00							
Quality Control	Check hole locations to template. DT 8824 Check process sheet and audit.								
140		0.00							
140									
Small Fab	Memo	0.05							
Small Fab	1- INSTALL DECALS AS PER DWG								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

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155144

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Accept

N900040100

Setup Start *NS1*

Stop *NS2*

1

Cust Item ID:

1

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

**Insp.
Stamp**

0.00

160

Packaging

0.00

Packaging

Memo

Packaging

Identify and pack for shipping as per PPP D350-604-041

Location:

PPP Rev: _____

170

QC21- Final Inspection - Work Order Release

0.00

170

Memo

0.02

Quality Control

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause				FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
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Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

Page 1

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Work Order ID: 155144

155144

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 9/29/2017

Required Date: 11/1/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:Q03.12.01ReformatKJ/RF IPP REV:R
12.02.07 AS PER ECN12-521 DD verf:JLM IPP REV:S 12.04.04
AS PER DWG REV.B DD VERF:EC IPP REV:T 13.09.12 as per
CHG006/ECN13-616 DDVERF:JLM IPP REV:U 14.05.28 as per
chg008/ecn14-563 DD verf:JLM IPP REV:V 15.03.13 remove cam lock and
washerDD verf:JLM IPP REV:W 15.03.25 ECN15-545 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D350-604-041P		Purchased	No			110	Each	0.0000	1	1			
D350-604-041P									**				
Rear Locker Extender													
D2268		Manufactured	No			140	Each	13.0000	1	1			
D2268									**				
Placard													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST006		13							
				147069		7		6/13/2017					
				148553		6		7/22/2017					
D2728-1		Manufactured	Yes			140	Each	-1.0000	1	1			
D2728-1									**				
Dart Logo Label Small													
D2269		Manufactured	No			155	Each	8.0000	1	1			
D2269									**				
Placard													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST006		8							
				147070		2		6/13/2017					
				148588		6		7/22/2017					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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								QC / QA Coordinator Approval																	
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Picklist Print

Monday, January 09, 2017 11:30:20 AM

Work Order ID: 155144

155144

Parent Item: D350-604-041

D350-604-041

Parent Item Name: Rear Locker Extender

Start Date: 9/29/2017

Required Date: 11/1/2017

Start Qty: 1.00

Required Qty: 1.00

D5062-041

Manufactured

No

155

Each

16.0000

1

1

D5062-041

Bracket Assembly

Location

Loc Qty

Loc Code

ST147

16

145920

16

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																																
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				QC / QA Coordinator Approval																																																																
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TABLE 1

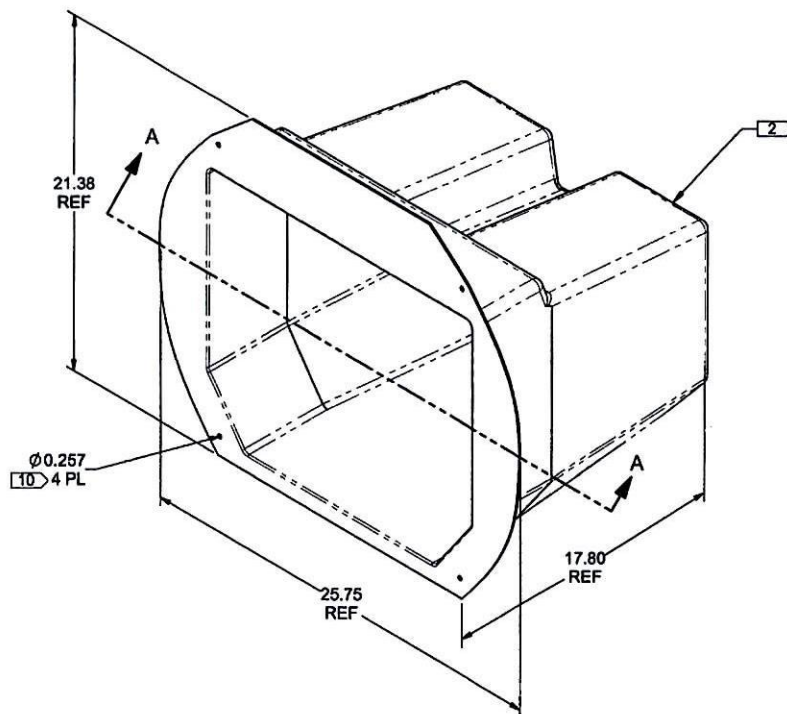
POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

TABLE 2

POSITION	MATERIALS
1	TOOL SURFACE
2	GELCOAT
3	3/4 oz CHOPPED STRAND MAT
4	7725 FIBER GLASS
5	7725 FIBER GLASS
6	7725 FIBER GLASS
7	7725 FIBER GLASS
8	7725 FIBER GLASS
9	7725 FIBER GLASS
10	PRIMER

NOTES:

- 1) MATERIAL: SEE TABLE 3
 2) FINISH: SEE TABLES 1, 2, & 3
 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
 7) WEIGHT: 5.5 - 7.5 lbs
 8) LAMINATE PER DART QSI 006. LAMINATION SCHEDULE PER THIS DRAWING
 9) LAYUP USING DT9871 MOLD. WET LAYUP WITH BAG/VACUUM
 10) TRIM & DRILL PER DT9905. OPEN HOLES TO Ø0.257
 11) CONSTRUCTION: SEE TABLES 1 & 2
 12) MATTE TO HOLD DOWN CORNERS AS REQUIRED



D2273 REAR LOCKER EXTENDER

TABLE 3

MATERIAL USED	DESCRIPTION
GELCOAT	55X3535 WHITE GELCOAT
FIBER GLASS MAT	OWENS CORNING 3/4 oz CHOPPED STRAND MAT
FIBER GLASS CLOTH	HEXCEL 7725 FIBER GLASS
RESIN SYSTEM	DION 7704
PRIMER	TEMPO 4500-PB-23G (GREEN)

SHOP COPY
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 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER

NO. 155144 MJS
 17-01-12

SEE TABLE 1

SEE TABLE 2

SECTION A-A

M	CHANGE GELCOAT TO 55X3535 WHITE GELCOAT, REMOVE PAINT FINISH OPTION (NOTE 2)	DB	18.05.19
L	ADD PAINT OPTION (NCR 15-5408)	CP	15.10.19
K	LAYUP AND MAT'L PER FDC COMPOSITES PROCESS	CP	15.03.12
J	CHANGED GELCOAT TO 4314-001 DURA FR WHITE	ML	13.12.10
I	CHANGE GELCOAT TO POLYCOR 2330PAWK745	SFM	13.08.13
H	CHANGE MATERIAL & MANUFACTURING PROCESS	DC	13.03.15
G	ADD MANUFACTURING OPTION B, ZN B5-1	DC	12.08.08
F	PRIMER LE 3404-S/LE 1175-S WAS 1144-S, ZN A6-1	DC	12.02.27
E	CHANGED SURFACE FINISH FROM 944W005 GELCOAT TO 2330PAWK745 GELCOAT, ZN A7-1. UPDATED DWG TO CURRENT STANDARDS.	DC	12.02.02
D	REMOVE EPOCAST, ADD SURFACE FINISH	CP	02.04.01
C	CLARIFY MATERIAL, LAYUP, AND TOOLING	RF	02.01.30
B	RE-DRAWN	MM	98.05.27
REV.	DESCRIPTION	BY	DATE
DESIGN	JB		
DRAWN	DB		
CHECKED	ML		
MFG. APPR.	DD		
APPROVED	WM		
DE APPR.	DS		
DATE	16.05.19		

DART AEROSPACE LTD
 HAWKESBURY, ONTARIO, CANADA

DRAWING NO. D2273 REV. M

SHEET 1 OF 1

SCALE

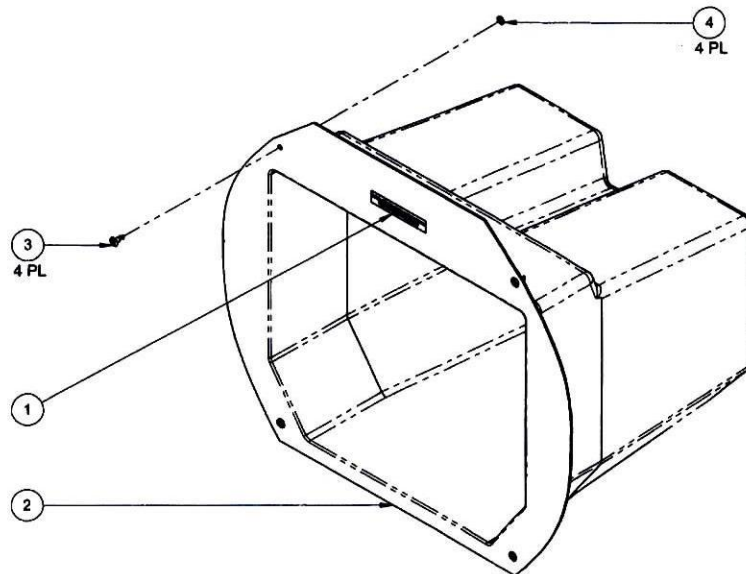
350 REAR LOCKER EXTENDER NTS

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RELEASED
 2017-01-11
 ECU 17-501

APPROVED

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
	X	D350-604-041	REAR LOCKER EXTENDER ASSEMBLY
1	1	D2268	PLACARD
2	1	D2273	REAR LOCKER EXTENDER
3	4	2600-6	CAMLOCK STUD
4	4	2600-LW	RETAINING WASHER



D350-604-041 REAR LOCKER EXTENDER ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 5.5 to 7.5 lbs
- 8) INSTALL D2268 PLACARD IN LOCATION SHOWN, CENTERED ON FLANGE

C	REMOVE D2728-1, D2729-1 DECALS (ZN C5-1) REVISED RELATED NOTES, UPDATED PART WEIGHT	ML	13.12.16
B	INCORPORATE DSI 9470 (ZN D7-1), UPDATE DWG TO CURRENT STANDARDS. ADD D2728-1 PLACARD AND ORIENTATION NOTE (ZN C3-1). ADD D2729-1 (ZN C5-1).	DC	12.02.07
A	NEW ISSUE	CP	02.04.01
REV.	DESCRIPTION	BY	DATE
DESIGN	DW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ML		
CHECKED	AP	DRAWING NO.	REV. C
MFG. APPR.	JLM	D350-604-041	SHEET 1 OF 1
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	RLE ASSY	NTS
DATE	14.01.02	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

10

D350-604-041

REAR LOCKER EXTENDER

[illegible]



Dart Hawkesbury
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO34975

Supplier: FDC001-VC
FDC Composites Inc.
45 chemin de L'Aéroport, Local 26
St-Jean-sur-Richelie
QC
J3B 7B5 Canada
Phone: 450-357-1344 ext303
Fax: 450-357-1194

PO No: PO34975
PO Date: 1/17/17
Due Date: 11/1/17
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: net 30
Freight Terms:
Special Comments:

Items

Line Item	Part	Rev	Description	Item Tax	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	D350-604-041P	-	Rear Locker Extender		Firmed	11/1/17	1 Ea	0 Ea	1 Ea	\$705.00/Ea	\$705.00
2	D350-604-041P	-	Rear Locker Extender		Firmed	11/1/17	1 Ea	0 Ea	1 Ea	\$705.00/Ea	\$705.00
3	D350-604-041P	-	Rear Locker Extender		Firmed	11/1/17	1 Ea	0 Ea	1 Ea	\$705.00/Ea	\$705.00
4	D350-604-041P	-	Rear Locker Extender		Firmed	11/1/17	1 Ea	0 Ea	1 Ea	\$705.00/Ea	\$705.00
5	D350-604-041P	-	Rear Locker Extender		Firmed	11/1/17	1 Ea	0 Ea	1 Ea	\$705.00/Ea	\$705.00
Grand Total:											\$3,525.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 10/6/17 1:11 PM Dart.Baker.Diane

FDC Composites inc.
45, Chemin de L'Aéroport
Local 26
Saint-Jean-sur-Richelieu (QC)
J3B 7B5
Tel. : 450 357-1344

Shipping Order

15/11/2017

Order : 2700
Reference : PO 34975/1-5

Customer: DAE-CAD

Ship To

Dart Aerospace
1270 Aberdeen Street
Hawksbury, ON
K6A 1K7

Same

Tel.: 1 613 632-9577

Item No.	Description	Qty	Qty. Delivere	B/O Qty
D350-604-041P	REAR LOCKER EXTENDER PO item: 34975/1 Lot: 2017-02-28 FDC ID: DAE001-121 B155143	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34975/2 Lot: 2017-03-01 FDC ID: DAE001-122 B155144	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34975/3 Lot: 2017-03-01 FDC ID: DAE001-123 B155145	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34975/4 Lot: 2017-03-02 FDC ID: DAE001-125 B155146	1		
D350-604-041P	REAR LOCKER EXTENDER PO item: 34975/5 Lot: 2017-03-02 FDC ID: DAE001-127 B155147	1		

SPR-11-30

Shipping : _____
Package No : _____

Ref. : _____

Merchandise Received: _____



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CERTIFICATE of CONFORMITY

Customer Name: Dart Aerospace.

Customer P/O Number: 34975

Revision: NC

<u>PO Item</u>	<u>Qty</u>	<u>Part number</u>	<u>Dwg number</u>	<u>Description</u>	<u>Dart ID</u>	<u>FDC ID</u>	<u>Lot</u>
1	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155143	DAE001-121	2017-02-28
2	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155144	DAE001-122	2017-03-01
3	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155145	DAE001-123	2017-03-01
4	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155146	DAE001-125	2017-03-02
5	1	D350-604-041P	D2273 Rev M	350 Rear Locker Extender	B155147	DAE001-127	2017-03-02

I hereby certify that the workmanship, material and the processes used in the manufacture of the above part(s) supplied are in accordance with the requirements of the applicable Purchase Order.

Signature: Marjorie Geoffrion
Marjorie Geoffrion, Quality Inspector

Date: 2017-11-15



Gamme de Fabrication

Nom de Gamme :	Rear locker extender - DART
# de Gamme (et rev.) :	DAE001 Rev. E
Nom pièce - Client :	350 Rear locker extender - DART AEROSPACE
# de Dessins (et rev.) :	D2273 Rev. J

# LOT	2017-09-01
# SÉRIE(ID)	DAE001-122

ID: ~~122~~ BISS144 #2

Fiche suiveuse

PLAGE (ÉTAPES)	DÉPARTEMENTS	DESCRIPTION GÉNÉRALE	DATE(HR) SORTIE
[10-60]	Préparation	Moule, Espace de travail, Matière premières, Consommables	#23 23 FEV. 2017
[70-90]	Finition/Peinture	Appliquer Gel coat, Inspecter	#3 01 MAR. 2017
[100-150]	Laminage	Laminer, Démouler, Inspecter	#26 #21 #23 01 MAR. 2017 01 MAR. 2017 01 MAR. 2017
[160-200]	Usinage	Percer, Découper, Ébavurer, Inspecter, Sabler	#30 9 MAR. 2017
[210-230]	Finition/Peinture	Primer, Inspection	#3 28 MAR. 2017
240	Expédition	Emballer, Expédier	#8 31 OCT. 2017

Gamme préparé par : _____ Guillaume G.Jasmin
 Gamme révisée par : _____ Pascal Seguin
 Gamme vérifiée par (Chefs d'équipe) : _____
 Gamme approuvée par : _____
 Date d'émission : _____

2017-02-20

Approbation Qualité

Avant de produire le CofC, toutes les étapes et les informations requises des gammes subséquentes reliées à ce produit ont été complétées et remplies



Informations à remplir :

Cases grises pâles

Inspection :

Cases grises foncées

Matières premières

Matériel Requis (Nom abrégé)	# de lot	Date d'expiration	Spécification et/ou identification
Résine	1028612	2017-08-20	Dion 7704
Norox (Résine)	411049	2017-08-01	MEKP-9
Norox (Gel coat)	411049	2017-08-01	MEKP-9
Gel coat blanc	702 284	2017-03-20	55X-3535
Mat ¾ oz/pi²	15051100174-1	N/A	¾ oz Chopped Strand Mat (Owens Corning Or Equivalent)
Fibre de verre 7725	4294874	N/A	Hexcel 7725 Fiber Glass
Apprêt (Primer) (Vert)	18584	2018-12-31	Tempo 4500-PB-23G (Vert)
Durcisseur pour apprêt (hardener)	18317	2018-05-01	Tempo 4500-C-23
Attache mécanique (Camloc)	508980	N/A	2600-5
Rondelle de retenue pour Camloc	1745658	N/A	2600-LW

Équipement	Matériel auxiliaire	Santé et sécurité
Moule : MOU306 ou MOU309	FMS	Sarrau
Pompe à vide	55NC	Lunettes de sécurité
Jig de découpe et perçage : GAB350	Peel ply	Soulier de protection
Jig de finition et d'inspection : GAB355	Film perforé	Gants
	Bleeder breather	Masques à cartouches
Pince pour installer Camloc : OUT951	Bag big blue	
Outil pour installer rondelle de retenue : OUT952	Ruban scellant (Dum Dum)	

Documents auxiliaires
Annexe 1
Formulaire de résine (RES-DAR001)

MPS	Description
MPS-300-93-31-007-NC	Démoulage 55NC
MPS-300-93-31-058-A	Composite part inspection
MPS-300-93-31-020-B	Edge finish after trimming
MPS-300-93-31-097-NC	Epoxy - Polyamide primer
MPS-300-93-31-084-NC	Protection et entreposage des pièces

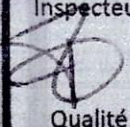
Suivi des révisions

# de révision	Contenu (et étape) de la révision	Date de révision	Révisé par :
A	Révision d'une OP inspection, Ajout nouveaux moules et retrait d'un type de primer	2015-03-04	Guillaume G.Jasmin
B	Ajout des conformateurs, du gabarit GAB355, de l'installation des camlocs, inspection du poids et identification finale	2015-03-25	Guillaume G.Jasmin
C	Mise à jour de la case approbation qualité page 1	2015-04-02	Guillaume G.Jasmin

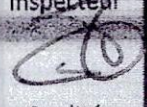
Opération	Description	Références, outils et équipements	Date et Initiales
Section A : PRÉPARATION			
10	<u>Remplir les informations requises sur la première page (cases grises pâles)</u> - Demander au coordonnateur de production (ID) - Inscrire les heures et les dates d'entrée et de sortie de département		#23 23 FEV. 2017
20	<u>Découper la fibre et les périssables (Peel ply, sac étanche...) selon l'ANNEXE 1</u> - ACHEMINER et REMPLIR la section « Matière premières » pour : - Fibre de verre 7725 - Mat ¾ oz	Annexe 1	#23 23 FEV. 2017
40	<u>Préparer la résine selon RES-DAR001 (Gamme de formulation de résine)</u> ACHEMINER et REMPLIR la section « Matière premières » pour : - Résine - Norox	RES-DAR001	#28 01 MAR. 2017
50	PRÉPARER le moule - Cochez le moule utilisé : MOU306 ☒ , MOU309 ☐ ☒ Nettoyer et traiter le moule ☒ Poser le Masking tape <u>Si nécessaire, traiter le moule au 55NC</u> Faire le test de pelage, s'il ne passe pas, appliquer une couche de 55NC et refaire le test.	Annexe 1 MOU306 ou MOU309 MPS-300-93-31-007	#19 28 FEV. 2017

60	PRÉPARER l'espace de travail (pendant l'application du gel coat)			#21 28 FEV 2017 #23 28 FEV 2017 #26 01 MAR 2017 #23 01 MAR 2017	
	☒ Vérifier et préparer la pompe ☒ Préparer et distribuer les outils ☒ Protéger l'environnement de travail (tables, plancher, etc.) ☒ Vêtir l'équipement de protection personnel ☒ Partir la ventilation ☒ Vérifier l'ordre et la présence de tous les plis de fibre et des morceaux de noyau dans le sac				
	Position	Matériel			Initial employé
	10F	¾ oz Chopped strand MAT			<i>clausi ng</i>
	20F	7725 Fibre de verre			<i>clausi ng</i>
	30F	7725 Fibre de verre			<i>clausi ng</i>
	40R	7725 Fibre de verre			<i>clausi ng</i>
	50C	Noyau DIAB F40 1/8po			<i>clausi ng</i>
	60R	7725 Fibre de verre			<i>clausi ng</i>
	70R	7725 Fibre de verre			<i>clausi ng</i>
80F	7725 Fibre de verre	<i>clausi ng</i>			

Section B : APPLICATION GEL COAT

70	(GEL COAT) : ACHEMINER et REMPLIR la section « Matière premières » pour : Gel coat		#28 01 MAR. 2017		
80	APPLIQUER le Gel coat (18 - 22 mils) <table border="1" style="width: 100%;"> <tr> <td>Heure d'application</td> <td>06 h 50min</td> </tr> </table>	Heure d'application	06 h 50min	Annexe 1	#3 01 MAR. 2017
Heure d'application	06 h 50min				
90	Point d'inspection (Inspecteur Qualité) : ☒ Épaisseur du gel coat : 18 - 22 mils ☒ Qualité de l'application du gel coat : Uniforme et esthétique.		Inspecteur  Qualité		

Section C : LAMINAGE

100	Points d'inspection (Inspecteur Qualité ou Chef d'Équipe) : ☒ Donner l'approbation pour que la pièce puisse être laminée (le gel coat est « amoureux » ou « tack free »)		Inspecteur  Qualité																														
110	LAMINER <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Position</th> <th style="width: 70%;">Matériel</th> </tr> </thead> <tbody> <tr><td>10F</td><td>¾ oz Chopped strand MAT</td></tr> <tr><td>20F</td><td>7725 Fibre de verre</td></tr> <tr><td>30F</td><td>7725 Fibre de verre</td></tr> <tr><td>40R</td><td>7725 Fibre de verre</td></tr> <tr><td>60R</td><td>7725 Fibre de verre</td></tr> <tr><td>70R</td><td>7725 Fibre de verre</td></tr> <tr><td>80F</td><td>7725 Fibre de verre</td></tr> </tbody> </table> CONSOMMABLE <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>10F</td><td>Peel Ply</td></tr> <tr><td>20F</td><td>Release film non perforé</td></tr> <tr><td>30F</td><td>Bleeder / Breather</td></tr> <tr><td>50F</td><td>Bagging bleu</td></tr> </tbody> </table> ☐ S'assurer que tous les plis dans le tableau ont été laminés ☐ S'assurer que tous les conformateurs (Qte 9) sont en place par-dessus le Bleeder/Breather <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 40%;">Heure début laminage</td> <td style="width: 60%; text-align: center;">7 h 15 min</td> </tr> <tr> <td>Heure mise sous-vide (sac scellé)</td> <td style="text-align: center;">8 h 15 min</td> </tr> <tr> <td>Intensité du vide (25 inHg)</td> <td style="text-align: center;">28 inHg</td> </tr> </tbody> </table>	Position	Matériel	10F	¾ oz Chopped strand MAT	20F	7725 Fibre de verre	30F	7725 Fibre de verre	40R	7725 Fibre de verre	60R	7725 Fibre de verre	70R	7725 Fibre de verre	80F	7725 Fibre de verre	10F	Peel Ply	20F	Release film non perforé	30F	Bleeder / Breather	50F	Bagging bleu	Heure début laminage	7 h 15 min	Heure mise sous-vide (sac scellé)	8 h 15 min	Intensité du vide (25 inHg)	28 inHg	Annexe 1 GAB356 à GAB364 (Qte 9)	#21 01 MAR. 2017 #26 01 MAR. 2017 #23 01 MAR. 2017 #19 01 MAR. 2017
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120	#26 LAISSER POLYMERISER la pièce sous vide pendant 2h 01 MAR. 2017	#19 01 MAR. 2017	#23 N/A 01 MAR. 2017																														

130	DÉMOULER et IDENTIFIER la pièce ☒ Brancher le système d'air comprimé ☒ Écrire le numéro de pièce et la date sur un collant – # de lot (date de début) – # de série ID Ex : (AAAAMMJJ) – (DAE001-XXX) ☐ Découper une pellicule de plastique protecteur bleu et la coller sur le rebord et à l'intérieur de la partie blanche (Gel coat) (Voir Annexe 1) ☒ Placer la pièce sur la table d'inspection	Annexe 1	#21 1 MAR. 2017 #23 01 MAR. 2017
140	Point d'inspection (inspecteur qualité) : ☒ Identifier la présence de surplus de résine ☒ Identifier la présence de bulles d'air ☒ Identifier la présence de zone sèche ☒ Identifier la présence de plis dans la fibre	MPS-300-93-31-058	Inspecteur Qualité 20170302
150	Nettoyer le moule - Enlever la résine durcie tout le tour du moule avec une spatule en plastique pour ne pas endommager le moule Si nécessaire, nettoyer le moule avec un chiffon légèrement humecté de nettoyant à moule (PMC) NE PAS TROP APPLIQUER DE "PMC"	Spatule en plastique	#23 01 MAR. 2017

Section D : USINAGE

160	PERÇAGE ET DÉCOUPE : INSTALLER le Gabarit de perçage et découpe PERÇER la pièce - Perçer 4 trous avec un forêt F (Dia. .257 po) au travers des canons de perçage du Gabarit GAB350 DÉCOUPER la pièce - Retirer le Gabarit de découpe une fois terminé	GAB350 Annexe 1 Forêt F (Dia. .257 po)	#30 9 MAR. 2017
170	SABLAGE : INSTALLER le Gabarit de finition et d'inspection GAB355 SABLER la pièce jusqu'à arriver à la dimension du Gabarit GAB355 (voir Annexe 1) RETIRER le Gabarit	GAB355 Annexe 1 MPS-300-93-31-020	Signature

	ÉBAVURER les arêtes vives		
180	Point d'inspection (inspecteur qualité) : ☒ Plier les flanges (rebords) afin de s'assurer que le Gel coat ne craque pas (Voir Annexe 1 pour ce test) ☒ Vérifier la conformité de la pièce (Dimensions) selon le no. de dessin et selon le MPS-300-93-31-058	Annexe 1 MPS-300-93-31-058	  2017 03-16

190	SABLER légèrement l'extérieur de la pièce Papier 120 à 320 grains		#26 14 MAR. 2017
200	NETTOYER les surfaces extérieures		#3 MAR 28 AVR. 2017

Section E : FINITION/PEINTURE

210	APPLIQUER le primer 2 couches d'environ 10 mils chacune	MPS-300-93-31-097	#3 MAR 28 AVR. 2017
220	INSTALLER les attaches mécaniques (Camlocs) (Qte 4) (voir Annexe 1) - Utiliser les pinces spécialisées (OUT951) pour insérer les Camlocs dans les trous - Utiliser l'outil spécialisé (OUT952) pour installer les rondelles de retenues	Annexe 1 Pince à Camloc (OUT951)	#19 2 MAI 2017
230	Inspection finale : - Validation de la finition (pinholes, surface inégale, etc...) - Vérifié s'il y a un panneau de contrôle relié à la pièce - Étamper le carré dans le coin inférieur droit de la première page - Identifier la pièce finale (voir Annexe 1) pour exemple et localisation - Poids de la pièce : <u>6.16</u> (LBS)	Annexe 1 MPS-300-93-31-058	 2017 07-18

Section F : EXPÉDITION

240	Emballer et expédier	MPS- 300-93- 31-084	#8 31 - 7017
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